

## **Remarks**

### **The claimed invention**

The present invention comprises fuel cells and methods of generating electrical power using a fuel cell. The fuel cells of the invention use a borohydride anolyte, one cathode catalyst, and two anode catalysts. The first anode catalyst catalyzes the anolyte to generate hydrogen, while the second anode catalyst catalyzes the hydrogen to produce hydrogen ions.

### **The prior art**

Fukuda I and Fukuda II describe a fuel cell that uses hydrazine or sodium borohydride for fuel. They use a single anode catalyst, comprising a mixture of nickel and platinum or a platinum coating deposited on a nickel base.

Amendola describes a borohydride compound mixed with a nonaqueous carrier and used for powering a fuel cell. No co-catalyst system is described.

### **Rejections under 35 U.S.C. § 102**

Claims 1-10, 12-25, and 27-30 stand rejected under 35 U.S.C. § 102(b) as anticipated by either Fukuda I or Fukuda II. Applicant respectfully traverses this rejection for the reasons set forth below.

As amended, independent claims 1 and 16 (from which claims 2-10, 12-15, 17-25, and 27-30 depend) both clarify that the two anode catalysts of the fuel cell are separate – that is, physically deposited adjacent to one another, rather than one being a coating on the other. (The term “separate” is not intended to exclude the possibility that the co-catalysts may be in contact with one another, but only to indicate that they are not in intimate contact at *all* surfaces). Thus, the fuel cell of the invention is structurally different from that of Fukuda. Further, one of ordinary skill in the art would not be motivated to alter the fuel cell of Fukuda by separating the co-catalyst materials, since the stated purpose of the platinum of Fukuda is to shield the nickel from the anolyte. (*See, e.g.*, Fukuda I, col. 2, lines 10-72; Fukuda II, col. 2, lines 7-60 and col. 3, lines 21-26).

For at least the above reasons, claims 1-10, 12-15, and 27-30 are not anticipated by Fukuda I or Fukuda II. Reconsideration and withdrawal of the rejection is therefore respectfully requested.

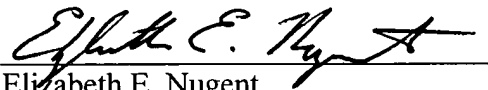
Rejections under 35 U.S.C. § 103

Claims 11 and 26 stand rejected under 35 U.S.C. § 103(a) as obvious over Fukuda I or Fukuda II in view of Amendola.

As discussed above, Fukuda does not disclose the separate co-catalyst system recited in claims 1 and 16, from which claims 11 and 26 depend, respectively. This defect is not remedied by Amendola, which is relied upon solely to teach a nonaqueous carrier for a borohydride fuel. Thus, the combination of references cannot render claims 11 and 26 obvious. Reconsideration and withdrawal of the rejection is therefore respectfully requested.

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Respectfully submitted,



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Date: February 13, 2004

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